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DIALOG(R)File 351:DERWENT WPI (c)1999 Derwent Info Ltd. All rts. reserv.
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Biosynthesis of specific polyketide analogues esp. erythromycin cpds. - by introducing altered biosynthetic gene-contg. DNA into microorganisms

Patent Assignee: ABBOTT LAB (ABBO)
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Number of Countries: 021 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Main IPC	Week
WO 9313663	A1	19930722	WO 92US427	A	19920117	A01N-043/22	199330 B
AU 9212450	A	19930803	AU 9212450	A	19920117	A01N-043/22	199348
			WO 92US427	A	19920117		
TW 202481	A	19930321	TW 92100185	A	19920113	C12N-015/10	199425
EP 626806	A1	19941207	EP 92905082	A	19920117	A01N-043/22	199502
			WO 92US427	A	19920117		
AU 665526	B	19960111	AU 9212450	A	19920117	C12P-019/62	199609
			WO 92US427	A	19920117		
US 5824513	A	19981020	US 91642734	A	19910117	C12P-019/62	199849 N

Priority Applications (No Type Date): WO 92US427 A 19920117; US 91642734 A 19910117
Cited Patents: 2.Jnl.Ref; US 4874748; US 4935340
Patent Details:

Patent	Kind	Lan	Pg	Filing Notes	Application	Patent
WO 9313663	A1	E	133			
Designated States (National): AU CA JP KR						
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU MC NL SE						
AU 9212450	A			Based on	WO 9313663	
EP 626806	A1	E		Based on	WO 9313663	
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU MC NL SE						
AU 665526	B			Previous Publ.	AU 9212450	
				Based on	WO 9313663	

Abstract (Basic): WO 9313663 A

A new method for directing the biosynthesis of specific polyketide analogues by genetic manipulation of a polyketide-producing microorganism, comprises (a) isolating a polyketide biosynthetic gene-contg. DNA sequence (I); (b) identifying enzymatic activities associated with (I); (c) introducing one or more specified changes into (I) which codes for one of the enzymatic activities resulting in an

altered DNA sequence; (d) introducing the altered DNA sequence into a polyketide-producing microorganism to replace the original sequence; (e) growing a culture of the altered microorganism under conditions suitable for the formation of the specific polyketide analogue and (f) isolating the specific polyketide analogue from the culture.

(I) may comprise genes which encode, e.g. beta-ketoreductase, dehydratase, acyl carrier protein (ACP), enoylreductase, beta-ketoacyl ACP synthase or acyltransferase. The polyketide may be e.g. macrolides (e.g. erythromycin or rapamycin analogues), tetracyclines, polyethers, polyenes or ansamycins.

Also claimed are the cpds: 7-hydroxyerythromycin A, 6-deoxy-7-hydroxyerythromycin A, 7-oxoerythromycin A, 3-oxo-3-deoxy-5-desosaminyl-erythronolide A, delta-6,7-anhydroerythromycin A, ((14S,15S)14(1-hydroxyethyl)erythromycin A, 11-epifluoro-15-norerythromycin A, 14-(1-propyl)erythromycin A, and 14(1-(1-hydroxypropyl)erythromycin A.

USE/ADVANTAGE - By introducing specific genetic alterations in polyketide biosynthetic genes, polyketide molecules of a desired structure can be produced. The novel erythromycin analogues are used as antibiotics

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Derwent Class: B03; D16

International Patent Class (Main): A01N-043/22; C12N-015/10; C12P-019/62

International Patent Class (Additional): A61K-031/335; A61K-031/71; C07H-017/08; C12N-001/21; C12N-015/31; C12N-015/52; C12N-015/64; C12N-015/76

File 351:DERWENT WPI 1963-1998/UD=9907;UP=9907;UM=9907
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Set Items Description
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?e pn=tw 202481

Ref Items Index-term
E1 1 PN=TW 202479
E2 1 PN=TW 202480
E3 2 *PN=TW 202481
E4 1 PN=TW 202482
E5 1 PN=TW 202483
E6 1 PN=TW 202484
E7 2 PN=TW 202485
E8 1 PN=TW 202486
E9 1 PN=TW 202487
E10 1 PN=TW 202488
E11 1 PN=TW 202489
E12 1 PN=TW 202490

?s e3
S1 2 PN="TW 202481"
?t 1/7/all

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009940332 WPI Acc No: 94-208044/199425

Prodn. of new poly;ketide and erythromycin polyketide - using organism with DNA for enzyme activity modified

Patent Assignee: ABBOTT LAB (ABBO)
Number of Countries: 001 Number of Patents: 001

Patent Family:
Patent No Kind Date Applicat No Kind Date Main IPC Week
TW 202481 A 19930321 TW 92100185 A 19920113 C12N-015/10 199425 B

Priority Applications (No Type Date): US 91642734 A 19910117

Abstract (Basic): TW 202481 A
A method to produce novel polyketide structures comprises designing and introducing specified changes in the DNA governing the synthesis of the polyketide is disclosed. The biosynthesis of specific polyketide

analogs is accomplished by genetic manipulation of a polyketide-producing microorganism by isolating a polyketide biosynthetic gene-containing DNA sequence, identifying enzymatic activities associated within the DNA sequence, introducing one or more specified changes into the DNA sequence which codes for one of the enzymatic activities which results in an altered DNA sequence, introducing the altered DNA sequence into the polyketide-producing microorganism to replace the original sequence, growing a culture of the altered microorganism under conditions suitable for the formation of the specific polyketide analog, and isolating the specific polyketide analog from the culture. The method is most useful when the segment of the chromosome modified is involved in an enzymatic activity associated with polyketide biosynthesis, particularly for manipulating polyketide synthase genes from Saccarharopolyspora or Streptomyces.

Derwent Class: B03; D16

International Patent Class (Main): C12N-015/10

International Patent Class (Additional): C12N-015/31; C12N-015/52; C12N-015/64